

Notice of Allowability

Application No.

10/537,513

Examiner

Daniel J. Petkovsek

Applicant(s)

NODA ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed December 21, 2006.
2. ☒ The allowed claim(s) is/are 21, 25-32 and 35-39.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 12/21/06
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

This office action is in response to the amendment filed December 21, 2006. In accordance with the amendment, the abstract has been amended to meet the requirements for the language and format for an abstract of the disclosure.

Claims 21, 25-32, and 35-39 are pending.

Information Disclosure Statement

1. The prior art documents submitted by Applicant in the Information Disclosure Statements filed on December 21, 2006, have been considered and made of record (note attached copy of forms PTO-1449).

Allowable Subject Matter

2. Claims 21, 25-32, and 35-39 are allowed. The following is an examiner's statement of reasons for allowance: the relevant prior art of record (Flory et al. U.S.P. No. 6,687,447 B2) does not teach or reasonably suggest, in combination, the specific claim limitations of independent claims 21 or 31. Regarding claim 21, the closest prior art of record does not teach or reasonably suggest a multiplexer/demultiplexer using *boundary reflection* that includes plural modified refractive index areas arranged periodically in a slab-shaped body, a waveguide formed by creating defects of the modified refractive index areas in a linear arrangement the end of which is located on an end of the body, and a first reflecting section *provided at an end* of the waveguide, for reflecting light having a wavelength equal to resonant wavelength of a point-like defect by connecting another two-dimensional *photonic crystal not transmitting light* with the wavelength *to the end* of the body (see arguments presented December 21, 2006, pages 4 and 5). Regarding claim 31, the closest prior art does not teach or reasonably suggest a two-dimensional photonic

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crystal optical multiplexer/demultiplexer (with further claim limitations) using *boundary reflection* in which a part of a waveguide-transmittable wavelength band in each of the *forbidden band zones is not included* in a waveguide-transmittable wavelength band of all forbidden band zones present *on one side of the forbidden band zone*, but included in the waveguide-transmittable wavelength band of all forbidden band zones present on the *other side* of the *forbidden band zone* (see arguments presented December 21, 2006, pages 4 and 5).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

3. Applicant's arguments, see remarks, with respect to the rejections to Flory et al. '447 have been fully considered and are persuasive. The rejections of claims 21, 25-32, and 35-39 have been withdrawn.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Petkovsek whose telephone number is (571) 272-2355. The examiner can normally be reached on M-F 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Daniel Petkovsek
January 19, 2007



SUNG PAK
PRIMARY EXAMINER